Output and Unemployment dynamics in LDC’s
The Okun Lawn revisited

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Motivation

We know that:

- A *Take-off* come from *Big Push*, for ex : industrial revolution,
- There is a trade-off between development and unemployment,
- Okun Law is unstable in LDC’s,
The aim of this paper

- Is to reexamine the consequences of dualism in the perspective of economic take-off,
- If the development of the modern sector decreases employment, then the take-off is unavoidably accompanied by a sudden increase in unemployment.
- The economic take-off is represented by a dual model in which the production in the modern sector generates two technological externalities,
- On the one hand a static externality (Marshall type economy of scale)
- On the other hand, a dynamic technology externality that benefits the entire economy Wage disparities and
The work of Arthur Lewis (1954) placed at the heart of the debate on development, the ideas of classical economists about the process of industrial transformation in the early stages of capitalist development,

Harris and Todaro (1970) extended the Lewis model. According to these authors, an increase in employment in the modern sector impacts negatively on employment in the economy at large,

Murphy, Vishny (1989), Industrialization and the big Push,
We consider an economy with two sectors, a modern sector and a traditional one. Both sectors produce the same good.

- There are N workers in the economy. Workers are identical and risk-neutral,
- The wage in the modern sector is negotiated,
- Unemployment seems to be a necessary step for those willing to work in the modern sector,
Basic relations

\[ \hat{\ell}_t^d = -\delta (\hat{w}_t - \hat{p}_t - \hat{a}_t) \]
\[ \hat{w}_t = E_{t-1}\hat{p}_t + \hat{a}_{t-1} + g - \frac{\gamma}{\delta} \hat{\ell}_{t-1}^d - \frac{1-\gamma}{\delta} \bar{\ell} \]
\[ \hat{p}_t = \hat{p}_t^f + \hat{e}_t \]
\[ \hat{p}_t^f = \hat{p}_{t-1}^f + \pi + \epsilon^p_t \]
\[ \hat{m}_t - \hat{p}_t = \bar{y}_t - \eta \hat{i}_t + v_t \]
\[ v_t = v_{t-1} + \epsilon^m_t \]
\[ \hat{i}_t^f = \hat{i}_{t-1}^f + \epsilon^i_t \]
\[ \hat{i}_t = E_t \hat{e}_{t+1} - \hat{e}_t + \hat{i}_t^f \]
\[ \hat{u}_t = \bar{\ell}_t - \hat{\ell}_t \]
We compute the rational expectations solution to the previous model given the exchange rate regime. The general solution is:
\[ \hat{u}_t = \gamma \hat{u}_{t-1} + \delta (E_{t-1} \Delta \hat{p}_t - \Delta \hat{p}_t) - \delta \epsilon_t^s \]
Under flexible exchange rate

The reduce-form for the unemployment rate dynamics is:

\[ \hat{u}_t = \gamma \hat{u}_{t-1} - \delta \eta \epsilon^i_t - \delta \epsilon^m_t \]
The reduce-form for the unemployment rate dynamics is:

\[ \hat{u}_t = \gamma \hat{u}_{t-1} - \delta (\epsilon_p^t + \epsilon_s^t) \]
Extensions

1. We extend the discussion by taking into account the New Keynesian Macro-Model,
2. Caribbean labor markets, are affected by international business cycles (foreign shocks),
3. we complet the previous model by intergrating, the aggregate supply, this IS curve and the monetary policy based on the Talor rule.
1. We solve the equilibrium model by taking into account the rational expectations’ hypothesis,

2. We perform the parameterization for both basis and extended models,

3. We simulate the model for Barbados and OECS countries.
**Table:** Parameter values of the model basic

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<th>α</th>
<th>γ</th>
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**Table:** Parameter values of the extended model

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Note: Cho and Moreno (2006).
OECS countries

**Figure**: Impulse responses to $\epsilon_t^s$

fig1.pdf
Introduction
The theoretical model
Dynamics behaviour in the basic model
Extended model
Empirical results

Impulse responses function for the basic model
Impulse responses function for the extended model
Some preliminary results

Barbados

\textbf{Figure}: Impulse responses to $\epsilon_t$

fig3.pdf
**Figure**: Impulse responses to $\epsilon_t^{AS}$

*fig4.pdf*
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**Figure**: Impulse responses to $\epsilon_i^{AS}$

*fig7.pdf*
**FIGURE**: Impulse responses to $\epsilon_t^{MP}$

fig9.pdf
**Figure**: Impulse responses to $\epsilon_t^{MP}$

fig8.pdf
Barbados

**Figure**: Impulse responses to $\epsilon_t^{MP}$

fig9.pdf
1. Under a flexible exchange rate regime, unemployment and wage have smaller impacts when countries are hit by structural shocks,

2. Under a fixed exchange rate regime, labour market tends to fluctuate more,

3. Structural shocks coming from the US economy have strong effects on Caribbean labour markets (this is due to the rigidity).